CLAIMS

What is claimed is:

1. A method of time stamping data in a local wireless device, comprising:

sequentially detecting a plurality of global synchronizing events;

receiving host data from a local host circuit;

forming the host data into data packets, the data packets including time stamp information; and

transmitting the data packets over a wireless channel to a remote wireless device,

wherein the time stamp information is identified relative to one of the plurality of global synchronizing events.

2. A method of time stamping data in a local wireless device, as recited in claim 1, wherein the global synchronizing events are one of: a plurality of network beacons sent over a wireless channel by a network coordinator, a plurality of network beacons generated by the local wireless device, a plurality of global positioning system signals sent over a wireless channel, a plurality of synchronization packets sent over a wireless channel by a remote network device, a plurality of synchronization packets generated by the local wireless device, and a plurality of synchronization signals sent over a wired channel.

3. A method of time stamping data in a local wireless device, as recited in claim 1, wherein the data packets include two or more levels of encapsulation.

4. A method of time stamping data in a local wireless device, as recited in claim 3, wherein the time stamp information includes first and second time stamp markers, the first time stamp marker being in a first of the two or more levels of encapsulation, and the second time stamp marker being in a second of the two or more levels of encapsulation.

5. A method of time stamping data in a local wireless device, as recited in claim 3,

wherein the first time stamp marker comprises a first free-running timer value corresponding to the host data, and

wherein the second time stamp marker comprises a global synchronizing event identifier and a second free-running timer value corresponding to the global synchronizing event.

6. A method of time stamping data in a local wireless device, as recited in claim 1, wherein the time stamp information comprises a global synchronizing event identifier and an offset timing value relating the host data in time with respect to the global synchronizing event.

7. A method of time stamping data in a local wireless device, as recited in claim 1, wherein the method is embodied in an integrated circuit.

8. A method of time stamping data in a local wireless device, as recited in claim 1, wherein the method is embodied in an ultrawide bandwidth transceiver.

9. A method of time stamping data in a local wireless device, as recited in claim 1, wherein the host data comprises one of: MPEG cells, encapsulated MPEG cells, Ethernet packets, internet protocol packets, and PCM audio samples.

10. A method of coordinating data in a wireless receiver, comprising:

sequentially detecting a plurality of global synchronizing events;

receiving a data packet from a remote device over a wireless channel;

extracting time stamp information from the data packet;

extracting host data from the data packet; and

passing the host data to a local host in response to the time stamp information,

wherein the time stamp information is identified relative to one of the plurality of global synchronizing events.

11. A method of coordinating data in a wireless receiver, as recited in claim 10, wherein the global synchronizing events are one of: a plurality of network beacons sent over a wireless channel by a network coordinator, a plurality of network beacons generated by the local wireless device, a plurality of global positioning system signals sent over a wireless channel, a plurality of synchronization packets sent over a wireless channel by a remote network device, a plurality of synchronization packets generated by the local wireless device, and a plurality of synchronization signals sent over a wired channel.

12. A method of coordinating data in a wireless receiver, as recited in claim 10, wherein the data packets include two or more levels of encapsulation.

13. A method of coordinating data in a wireless receiver, as recited in claim 12, wherein the time stamp information includes first and second time stamp markers, the first time stamp marker being in a first of the two or more levels of encapsulation, and the second time stamp marker being in a second of the two or more levels of encapsulation.

14. A method of coordinating data in a wireless receiver, as recited in claim 12,

wherein the first time stamp marker comprises a first free-running timer value corresponding to the host data, and

wherein the second time stamp marker comprises a global synchronizing event identifier and a second free-running timer value corresponding to the global synchronizing event.

15. A method of coordinating data in a wireless receiver, as recited in claim 10, wherein the time stamp information comprises a global synchronizing event identifier and an offset timing value relating the host data in time with respect to the global synchronizing event.

16. A method of coordinating data in a wireless receiver, as recited in claim 10, wherein the method is embodied in an integrated circuit.

17. A method of coordinating data in a wireless receiver, as recited in claim 10, wherein the method is embodied in an ultrawide bandwidth transceiver.

18. A method of coordinating data in a wireless receiver, as recited in claim 10, wherein the host data comprises one of: MPEG cells, encapsulated MPEG cells, Ethernet packets, internet protocol packets, and PCM audio samples.

19. A device for transmitting host data, comprising:

a free-running timer for providing a series of increasing free-running timing values;

a host interface circuit for receiving host data from a local host circuit and a first free-running timing value from the series of increasing free-running timing values, and for placing the host data and the first free-running timing value into a host interface packet;

a detection circuit for detecting a global synchronizing event and receiving a second free-running timing value from the series of increasing free-running timing values; and

a wireless transceiver for adding the second free-running timing value and an identifier for the global synchronizing event to the host interface packet to form an air link frame, and transmitting the air link frame over a wireless channel to a remote wireless device.

20. A device for transmitting host data, as recited in claim 19, further comprising a first-in-first-out buffer located between the host interface circuit and the wireless transceiver for passing the host interface packet.

21. A device for transmitting host data, as recited in claim 19, wherein the global synchronizing event is one of: a network beacon sent over a wireless channel by a network coordinator, a network beacon generated by the wireless transceiver, a global positioning system signal sent over a wireless channel, a synchronization packet sent over a wireless channel by a remote network device, a synchronization packet generated by the wireless transceiver, and a synchronization signal sent over a wired channel.

22. A receiver device for receiving host data over a wireless channel, comprising:

a free-running timer for providing a series of increasing free-running timing values;

a detection circuit for detecting a global synchronizing event and receiving a free-running timing value from the series of increasing free-running timing values; and

a wireless transceiver for receiving an air link frame having a host interface packet and a first time stamp, the host interface packet including a second time stamp.

a first time stamp processor for receiving the first time stamp and comparing the first time stamp with a recorded free-running timing value to determine a timer correction value for the receiver device;

a second time stamp processor for receiving the second time stamp and generating a host data process signal based on the second time stamp, the correction value, and a latency value, the latency value indicating an expected maximum latency time for the air link frame over the wireless channel; and

a host interface circuit for receiving and processing the host interface frame based on the host data process signal, and providing the host data to a local host circuit .

23. A device for transmitting host data, as recited in claim 22, further comprising a first-in-first-out buffer located between the wireless transceiver and the host interface circuit for passing the host interface packet.

24. A device for transmitting host data, as recited in claim 22, wherein the global synchronizing event is one of: a network beacon sent over a wireless channel by a network coordinator, a network beacon generated by the wireless transceiver, a global positioning system signal sent over a wireless channel, a synchronization packet sent over a wireless channel by a remote network device, a synchronization packet generated by the wireless transceiver, and a synchronization signal sent over a wired channel.